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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/827,170	04/06/2001	Shuhei Iizuka	108340	4382

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EXAMINER
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KNABLE, GEOFFREY L

ART UNIT	PAPER NUMBER
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1733

DATE MAILED: 07/14/2003

11

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/827,170

Applicant(s)

IIZUKA, SHUHEI

Examiner

Geoffrey L. Knable

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 02 May 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3. 6) ☐ Other: \_\_\_\_\_

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 has been amended to define that the ribbon has "oriented" short fibers embedded therein. Dependent claim 9 however defines that the fibers are randomly oriented. This raises confusion in determining the scope of the claim 1 reference to "oriented fibers" as it is considered that the normal and typical meaning of "oriented fibers" in this art means that the fibers are in fact given some real imposed orientation rather than simply being random. This use of the term "oriented" to apparently be generic to fibers that are in fact oriented as well as being what would normally be termed random or not oriented therefore raises the potential for confusion in determining the scope of protection afforded by these claims.

Claim 1 has also been amended to define that the reinforcing layer is an annular laminated *ply*. This was read to be intended to define over the reinforcing layer forming shaped or non-ply rubber components such as the bead filler/apex. However, dependent claim 4 remains, this claim defining that the reinforcing layer forms at least part of the bead filler (i.e. the fig. 6 embodiment). The scope of the claim 1 reference to a "ply" is thus now indefinite and confusing. The claims will thus be rejected assuming either that the claims are directed to a reinforcing ply or that the claims read on the reinforcing ply forming the bead filler.

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3. Claims 1, 2 and 5-7 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 10-109506 to Sumitomo Rubber (newly cited).

JP '506 discloses building a tire including beads, radial carcass, sidewalls, tread, and a reinforcing layer (10) extending from the bead portion to the sidewall. Further, this reinforcing layer is formed by spirally winding a ribbon of rubber with embedded oriented short fibers and is located between outer and inner tire rubber layers as claimed - note esp. figs. 1-2 as well as the abstract and machine translation of this reference. It is noted that this reference does not appear to explicitly mention the presence of an "inner liner rubber" as claimed. It however would have been readily apparent to the ordinary artisan that practically every tire includes or must include an inner liner rubber layer (i.e. a low air permeability innermost rubber layer, typically formed from butyl rubber) so as to be able hold air, it thus being considered that the reference discussion of a tire would have been read as implicitly or inherently having an innerliner or in any event it certainly would have been obvious to include the extremely common and well known innerliner rubber for the normal and typical reason of enabling the tire to hold air.

As to claim 2, the reinforcing ply is clearly illustrated as along and adhered to the carcass - note esp. figs. 1-2. As to claim 7, the fibers are oriented at 0 to 30 degrees to the hoop or circumferential direction, the suggestion of a 0 degree orientation teaching a circumferential orientation as claimed.

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As to claim 6, the reference suggests winding the extruded ribbon 12 directly on the rotating green tire - note esp. fig. 2 and paragraphs 38-41 in the document and machine translation thereof. As to claim 5, the reference also suggests that preforming can be done (note paragraph 43). Although mention is not made of a rotating carrier, it would seem that such would have been necessary or in any event certainly obvious to preform the spirally wound layer - a layer cannot be wound in mid air but must be formed on some form of support.

4. Claims 3, 4 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-109506 to Sumitomo Rubber (newly cited) as applied to claims 1-2 above, and further in view of JP 10-315717.

As to claim 3, JP '506 only illustrates the reinforcing layer being adhered to the carcass in the exemplary embodiments. However, paragraph 52 of the reference indicates that embodiments were contemplated where the reinforcing layer is axially between the main 7a and turnup 7b portions of the carcass, in which case the reinforcing layer would be adjacent the carcass. Further, and in any event, JP '717 is also directed to short fiber reinforced reinforcing layers in the sidewall of a tire and in particular indicates an understanding that the layer can be applied in a variety of orientations relative to the carcass and filler, including positions where the reinforcing layer lies adjacent or along the filler (note the figures). It thus is considered that JP '506 either suggests a location as claimed or in any event, it would have been obvious to position the reinforcing layer either inside or outside the carcass particularly in light of

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the above noted teachings of JP '717 indicating an art recognized suitability for either location.

As to claim 4, it would seem reasonable to consider that when positioned adjacent the bead filler, the reinforcing layer can be said to form part of the filler.

As to claim 9, JP '506 describes advantages for adopting oriented short fibers (at 0-30 degrees; see paragraphs 19-22) although the reference does seem to indicate an appreciation that not all the fibers may be oriented as desired (note paragraph 28 indicating that up to 10% of the fibers may not be oriented as desired). This would thus arguably be inclusive of reinforcing layers that include some randomly oriented fibers. Further, it also is considered that the artisan would have found it obvious to utilize random fibers if the reinforcing effect of the fibers were desired without the additional advantages of the orientation. In other words, although the art would indicate that random fibers are not preferred, applicant has not provided any indication that the use of random fibers provides any but the expected results. Note also that JP '717 shows the art recognized suitability of various fiber orientations (e.g. claim 5:  $45^{\circ} \pm 15^{\circ}$ ; claim 6:  $90^{\circ} \pm 10^{\circ}$ ) for similar fiber reinforced layers in a tires.

5. Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-109506 to Sumitomo Rubber (newly cited) as applied to claim 1 above, and further in view of Laurent (US 4,963,207) and/or EP 968814 to Bridgestone (newly cited).

As previously noted, JP '506 suggests extruding the ribbon 12 (paragraph 41) conventionally but provides no further details. The type of extruder used would thus

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have been an obvious selection for the artisan from among the well known conventional types, it being considered that both claimed types are extremely well known and conventional per se. Further, in light of Laurent as well as EP '814, it is apparent that the ordinary artisan in this art appreciates that certain advantages exist for volumetric type extruders (apparently the same as the claimed positive displacement type) – the particular choice however would have been well within the skill of the artisan to make, the advantageous and disadvantageous attributes of each being considered to have been well understood by the ordinary artisan and leading to only the expected results.

6. Claims 1, 2 and 4-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 6-192479 to Bridgestone taken in view of Laurent (US 4,963,207), Holroyd et al. (US 5,114,512) and Holroyd et al. (US 4,983,239).

These references are applied herein for the same reasons as set forth in the last office action, the claims being here interpreted as being consistent with the reinforcing layer being the bead filler as noted in the 112 rejection above. Additionally, a machine translation of JP '479 is provided, this clearly supporting the examiner's contention that the fibers are oriented along the direction 16 (paragraph 40).

7. Applicant's arguments filed May 2, 2003 have been fully considered but they are not persuasive and are in most respects moot in view of the newly cited JP 10-109506 to Sumitomo Rubber reference.

Additionally, it is noted that applicant urges that fig. 1 of JP '479 is a "mere diagrammatic representation of the fibers" and that "[i]n fact, as described in JP '479, the fibers are not generally oriented in such a regular aligned manner." Support for this

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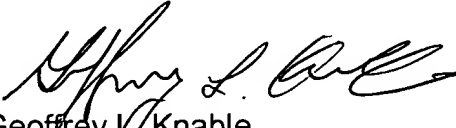
statement is however not provided. In fact, paragraph 40 of the machine translation of JP '479 clearly indicates that the direction 16 is the direction of orientation of the staple fibers, this being parallel to the bead wires (i.e. circumferential). Applicant's arguments to the contrary are thus unconvincing and lack any evidentiary basis.

8. Note: The June 13, 2001 IDS has been considered and an initialed copy of the form 1449 is attached. JP 6-192479 and JP 10-315717 have been crossed off the form as these references were previously made of record on form PTO-892.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 703-308-2062. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael W. Ball can be reached on 703-308-2058. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

  
Geoffrey L. Knable  
Primary Examiner  
Art Unit 1733

G. Knable  
July 8, 2003